

CHANGES IN FACULTY PERCEPTIONS ABOUT ONLINE INSTRUCTION: COMPARISON OF FACULTY GROUPS FROM 2002 AND 2016

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ABSTRACT

Faculty perceptions about online instruction were explored using data from a 32-item Quality Distance Education Survey (QDES) administered in 2002 (N = 120) and 2016 (N = 120) to U.S. higher education instructors with online teaching experience. Descriptive and ANOVA procedures were used to compare 2002 and 2016 group faculty perceptions about online instruction. Compared to the 2002 faculty group, the 2016 faculty gave significantly lower instruction importance ratings. Significant main effects for instruction items were noted for faculty group, age, sex, and tenure status. Significant interaction effects were noted for faculty group by sex, age, tenure status, and course level.

Keywords: Faculty Perceptions, Online Distance Learning, Instruction

INTRODUCTION

Advances in information and telecommunication technologies (ITT) coupled with a generation of digital natives entering higher education has promoted increased inclusion of online distance learning (ODL) as a part of course delivery systems (Baker, Nafukho, McCaleb, Becker, & Johnson, 2015; Crawford-Ferre & Wiest, 2012). A 10% annual growth in ODL enrollment has outpaced the 2% growth rate in higher education over all (Allen & Seaman, 2014; Horvitz, Beach, Anderson, & Xia, 2015). By 2014, one-third of eligible course enrollments were online, one-third of faculty had taught an ODL course, and adjunct faculty were being used with increased frequency for ODL course instruction (Allen & Seaman, 2014; Bunk, Li, Smidt, Bidetti, & Malize, 2015; Hixon, Ralston-Berg, Buckenmeyer, & Barczyk, 2016; Mandernach, Register, & O'Donnell, 2015).

For the present study, ODL is defined as a learning environment where the instructor and students are separated by time and location (Moore, 2013). The typical ODL course is Internet-based using a course management system (e.g.,

Blackboard, WebCT) supporting a variety of ITT devices and communication channels (Limperos, Buckner, Kaufmann, & Frisby, 2015).

Faculty teaching ODL courses are challenged with creating an engaging and supportive learning environment in the context of physical separation, technology embedded instruction, and students with differing learning styles and needs (Moore, 2013). Exploring faculty perceptions about teaching in an ODL environment can identify possible factors that influence ODL course instruction decisions and behaviors (Otter et al., 2013). ODL faculty instructional factors explored in the present study included: (a) enthusiasm for ODL teaching; (b) instructor-student interaction; (c) use of student collaboration; (d) required student participation; (e) use of varied instructional strategies; (f) timely instructor feedback and communication; and (g) providing clear criteria for student assessment. The purpose of the study was to explore the changing landscape of ODL course delivery within the context of faculty perceptions about instruction in the ODL environment. Specifically, the study's aim was to compare faculty responses to the 32-item Quality

Distance Education Survey (QDES) completed in 2002 with the responses of faculty who completed the QDES in 2016 (see Appendix). The study was guided by the following research questions:

- Comparing faculty responses from 2002 and 2016, to what extent have faculty and course delivery demographic factors changed relative to ODL course delivery?
- Comparing faculty response from 2002 and 2016, to what extent have faculty perceptions changed relative to ODL course instruction?

CONCEPTUAL FOUNDATION

Moore's (2013) Transactional Distance Theory (TDT) provided the conceptual foundation for exploring faculty perceptions about ODL course instruction. Central to TDT is the concept that learning is a socially embedded activity involving communication interactions taking place within a transactional learning space (Moore, 2013). A transactional gap is created within the ODL learning space by the communication and psychological distance and disconnect that exists among teacher and students interacting across different times and places (Moore, 2013). This transactional gap and psychological distance is reduced to the extent that instructors and students develop a relational closeness, sense of presence, and connectedness within the learning space (Kidder, 2015; Moore, 2013; Richardson et al., 2015). Instructional processes that foster a rich experiential learning space can promote positive discourse and interaction through intellectual activities and course tasks that reduce the transactional gap and support meaning-making and knowledge construction (Limperos et al., 2015; Moore, 2013; Richardson et al., 2015).

LITERATURE REVIEW

Faculty instruction is central to creating an ODL environment that promotes student achievement of course learning outcomes. This literature review includes a discussion of the seven ODL instructional factors explored in the study: (a) faculty enthusiasm for ODL teaching; (b) instructor-student interaction; (c) promoting student collaboration; (d) requiring active student participation; (e) use of a variety of instructional techniques; (f) timely instructor communication and feedback; and (g) providing clear criteria for assessment of student performance.

Faculty Enthusiasm for ODL Teaching

Faculty enthusiasm projected within the ODL environment promotes student interaction, engagement, and persistence in the learning process (Baker et al., 2015). Faculty demonstrate enthusiasm through meaningful communication and interaction and by aligning course materials, activities, and assessments that support students' self-directed learning and by understanding the connection between the subject matter and learning outcomes (Hixon et al., 2016). Low enthusiasm is communicated within the transactional learning space by a disinclined instructor, use of cumbersome or inadequate technology, poor course design, or faculty overwhelmed by the increased workload and time commitment associated with ODL course instruction (Bunk et al., 2015; Horvitz et al., 2015; Otter et al., 2013).

Instructor-Student Interaction

Timely, relevant, and responsive instructor-student interaction promotes student engagement, persistence, and satisfaction within the ODL learning environment (Crawford-Ferre & Wiest, 2012; Hixon et al., 2016). Students able to maintain ongoing interaction with the instructor report feeling less disconnected and higher levels of a sense of community in the transactional learning space (Richardson et al., 2015). Faculty use both synchronous (chat, Skype, Google, web-conferencing, and live audio/video streaming) and asynchronous (discussion boards, email, blogs, and Wikis) communication modalities to connect with students in ODL courses with text-based asynchronous communication the most frequently used (Baker et al., 2015; Huang & Hsiao, 2012; Schulte, 2010). However, asynchronous communication is weak in supporting instructor presence, trust, and connections with students, and this can contribute to students' feelings of disconnect and sense of physical and psychological separation (Limperos et al., 2015; Huang & Hsiao, 2012).

Synchronous communication modalities are being used more often by ODL faculty to facilitate presence and connectedness within the transactional learning space (Huang & Hsiao, 2012). ODL faculty report students underuse synchronous communication channels (e.g., office hours via web-conference or chat) and rely on

email or text-based communication that is time consuming, subject to long response delays, and prone to miscommunication due to the lack of visual cues (Huang & Hsiao, 2012; Schulte, 2010).

Promoting Student Collaboration

Student collaboration on ODL course activities is associated with improved problem solving and critical thinking skills, increased sense of connectedness and trust, and promotion of a shared purpose within a closed interactional environment (Broadbent & Poon, 2015; Crawford-Ferre & Wiest, 2012; Morgan, Williams, Cameron, & Wade, 2014). Effective student collaboration is fostered through ODL activities that facilitate in-depth dialogue, critical thinking, and social interaction (Baker et al., 2015; Morgan et al., 2014; Nash, 2015). Engaging students resistant to collaborative work often can overwhelm some instructors who must modify and adapt existing course materials to create ODL-based group activities (Hixon et al., 2016; Nash, 2015). Faculty can support student collaboration by communicating expectations for student behavior, modeling dialogue and collaborative interaction, and ensuring accountability through individual student assessment for group activities (Crawford-Ferre & Wiest, 2012; Schulte, 2010).

Requiring Active Student Participation

Student ODL course success is highly dependent on self-regulated learning and active engagement with course activities and materials (Broadbent & Poon, 2015; Kidder, 2015). Low motivation, failure to engage actively in learning activities, and poor assignment completion are associated with ODL course drop out/failure rates between 10% and 50% (Kauffman, 2015). Student engagement and interactive participation in the ODL course is facilitated when students see a link between course activities and learning outcomes, credit is given for required participation, the instructor models desired ODL participation, prompt and relevant feedback is given, and students have access to effective and timely academic and technology support (Allen & Seaman, 2013; Baker et al., 2015).

Use of a Variety of Instructional Techniques

Traditional classroom instruction often involves an instructivist pedagogy utilizing direct instruction-based lectures and synchronistic interaction (Broadbent & Poon, 2015; Esterhuizen, Bignaut, & Ellis, 2013). Faculty conduct ongoing

assessment during instruction and provide immediate feedback or course adjustments in response to student learning needs (Kauffman, 2015). The instructivist pedagogy is ineffective in the ODL environment due to the transactional gap in the learning space (Esterhuizen et al., 2013).

Most experienced ODL instructors believe a constructivist, student-centered pedagogy is more effective in supporting the learning process in the ODL environment (Esterhuizen et al., 2013; Kidder, 2015). A constructivist pedagogy involves the use of student collaboration and completion of authentic tasks that require reflection, dialogue, and higher-order thinking (Esterhuizen et al., 2013; Kidder, 2015). Constructivist-based activities promote knowledge construction and skill development through self-directed engagement with course materials that require critical thinking and metacognitive strategy use (Baker et al., 2015; Broadbent & Poon, 2015; Limperos et al., 2015). In the ODL environment, students respond positively to a constructivist rich experiential learning space that utilizes a variety of multimedia formats to present course content in different contexts and communication modalities (Esterhuizen et al., 2013). However, some faculty struggle to shift from an instructivist lecture-based to a constructivist mentoring-based pedagogy when moving from the traditional to the ODL classroom (Allen & Seaman, 2013; Kidder, 2015).

Timely Instructor Communication and Feedback

Timely and relevant instructor feedback and interactive communication are integral to reducing the transactional gap in the ODL learning space (Crawford-Ferre & Wiest, 2012; Huang & Hsiao, 2013; Richardson et al., 2015). Instructor-student communication is predominantly text-based, which requires a significant time commitment by faculty (Nash, 2015; Schulte, 2010). ODL instructors understand that the effectiveness and relevance of dialogue and feedback diminishes over time, yet many instructors admit to having a response time lag of two or more days for emails and upwards of two weeks for course assignment feedback or responding to student discussion board postings (Schulte, 2010).

Providing Clear Criteria for Assessment of Student Performance

Student motivation, metacognitive strategy use,

and critical thinking are associated with clearly outlined course assessments, providing concrete examples of assessment criteria, and linking course activities to required course outcomes (Baker et al., 2015; Kauffman, 2015; Limperos et al., 2015; Nash, 2015). ODL courses often have poorly aligned student assessment criteria that lack clear and relevant links to learning outcomes (Baker et al., 2015; Kauffman, 2015; Nash, 2015; Schulte, 2010). There is a shift in ODL course delivery toward a constructivist pedagogy that replaces test-based assessments with authentic learning assessment strategies (Baker et al., 2015; Kauffman, 2015; Morgan et al., 2014; Nash, 2015). Common constructivist-based assessments include portfolios, discussion board postings (e.g., quantity, quality, and depth of comments), and writing projects that encourage problem-solving, synthesis, application, and evaluation level critical thinking (Baker et al., 2015; Kauffman, 2015; Morgan et al., 2014; Nash, 2015).

METHODS

A descriptive survey method research design was used to obtain faculty perceptions about ODL course instruction. A convenience sampling method was used to collect data in 2002 and 2016 from ODL course instructors. The 32-item Quality Distance Education Survey (QDES) was administered between May 17 and June 15, 2002 to ODL faculty at twelve higher education institutions across the United States who participated in the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) organization. Among 325 ODL faculty invited to participate, 120 completed the survey (37% response rate). The 2016 faculty sample was derived from 384 faculty teaching at higher education institutions across the U.S. Pacific Northwest invited to participate in the study. The QDES was delivered and returned via email during the Fall term between September 24 and October 25, 2016 until a sample of 120 (33%) completed surveys was collected. Both study samples included faculty teaching at community colleges and four-year public and private colleges and universities delivering undergraduate and graduate ODL courses.

Instrumentation

The 32-item QDES developed for the study covered three areas: (a) personal demographic information; (b) faculty beliefs about instruction,

content, and technology use in ODL; and (c) the degree student feedback influenced course changes. Section I of the QDES consisted of seven descriptive questions to collect personal, higher education, and ODL course delivery demographic information. Section II included thirteen questions used to derive composite scores for faculty ratings on the importance of ODL course instruction, content, and technology factors. Question responses were presented using a six-point Likert-type set of anchors: 1 “Not at all important,” 2 “Unimportant,” 3 “Slightly unimportant,” 4 “Slightly important,” 5 “Important,” and 6 “Very important.” Section III QDES questions were used to assess faculty ODL course delivery changes based on student feedback. Questions were presented in a forced choice format: decreased, no change, or increased. Only Section I personal demographic questions and Section II ODL instruction questions were used for the present study.

QDES Validity and Reliability

The QDES was created specifically to address issues investigated in this study. The content validity of the QDES was assessed using face validity based on a review of the literature and comparison with items developed from the following validated instruments: (a) the Teacher’s Attitude Toward Computers (TAC) survey (Christensen, 2002); (b) A Study of the Perceptions and Attitudes Exhibited by Distance Education Students and Faculty at the University of Phoenix Online Program (Goodwin, 1993); and (c) the Student Satisfaction Survey: Telecommunications Mediated Instruction (DeBourgh, 1998). The original QDES was revised based on content and format recommendations by three Ph.D. level experts in survey construction and distance education.

QDES instrument reliability was assessed through a pilot study. QDES items 11 through 23 for faculty beliefs were generally unrelated with correlations ranging from $-.2319$ (Q15: “Uses a variety of instructional techniques,” and Q16: “Timely comments from the instructor”) to $.5849$ (Q20: “Clear criteria for student assessment,” and Q16: “Timely comments from the instructor”). Cronbach’s index of internal consistency was $.7053$ for the 13-item QDES scale and $.7236$ for the 7-item QDES: Instruction (QDES:I) scale. These values met Nunnally and Bernstein’s (1994) recommended minimum alpha level of 0.70 for scale reliability.

RESULTS

Presented are the results for each item of the 7-item QDES:I scale by faculty groups and mean QDES:I scale scores by personal demographic, higher education, and ODL variables.

Demographic Picture of ODL Faculty

The 2002 and 2016 faculty groups were compared on sex, age, higher education, and ODL demographic variables. A summary description of the 2002 and 2016 faculty groups by sex and age is provided in Table 1. More males in the 2002 sample taught ODL courses compared to more females in the 2016 sample. Faculty were categorized into three age groups: ≤ 39 years, 40–49 years, and 50+ years. Between 2002 and 2016, there was a slight increase of 3.3% for ODL faculty 50+ years, a 12.5% increase among faculty aged ≤ 39 years, and a 15.8% decrease among ODL faculty aged 40–49 years.

Table 1. Sex and Age Demographics of 2002 and 2016 Faculty Groups

	Faculty Group			
	2002		2016	
	<i>n</i>	%	<i>n</i>	%
Sex				
Male	62	51.7	57	47.5
Female	58	48.3	63	52.5
Age				
≤ 39	25	20.8	40	33.3
40–49	48	40.0	29	24.2
50+	47	39.2	51	42.5

A summary of the 2002 and 2016 faculty groups based on tenure status and institution type is presented in Table 2. Between 2002 and 2016, there was a 10.8% decrease in tenured, 2.5% decrease in tenure-track, and a 9.2% increase in non-tenure-track ODL faculty. The representation of faculty by institution type was fairly constant between the 2002 and 2016 study samples with about one-fourth of ODL faculty from community colleges, one-fifth from private four-year institutions, and over half from public four-year colleges or universities.

Presented in Table 3 is a summary of the 2002 and 2016 faculty groups according to the number of ODL classes taught, course subject area, course level, and the number of students in the last class. Between 2002 and 2016, there was a decrease for

faculty who taught only one ODL course (0.8) and 2–4 courses (7.5%) and an increase for faculty who taught 5–9 (4.2%) and 10+ courses (2.5%). This

Table 2. Higher Education Demographics of the 2002 and 2016 Faculty Groups

Higher Education Demographic	Faculty Group			
	2002		2016	
	<i>n</i>	%	<i>n</i>	%
Tenure Status				
Tenured	49	40.8	36	30.0
Tenure-Track	27	22.5	24	20.0
Non-Tenure-Track	49	40.8	60	50.0
Institution Type				
Community College/Other	34	28.3	31	25.8
Public	66	55.0	63	52.5
Private	20	16.7	26	21.7

Table 3. Summary of ODL Demographics for 2002 and 2016 Faculty Groups

ODL Demographic	Faculty Group			
	2002		2016	
	<i>n</i>	%	<i>n</i>	%
Number of ODL Classes Taught				
1	20	16.7	21	17.5
2–4	43	35.8	34	28.3
5–9	22	18.3	27	22.5
10+	35	29.2	38	31.7
School/Area Subject				
Arts & Sciences	31	25.8	49	40.8
Business	18	15.0	19	15.8
Education	43	35.8	33	27.5
Other	28	23.3	19	15.8
ODL Course Level Taught				
Undergraduate	50	41.7	69	57.5
Graduate	23	19.2	22	18.3
Undergrad/Graduate	47	39.2	29	24.2
# of Students in Last ODL Class				
1–9	15	12.5	18	15.0
10–19	49	40.8	37	30.8
20–29	33	27.5	32	26.7
30–39	7	5.8	13	10.8
40+	16	13.3	20	16.7

showed a trend toward faculty having greater ODL teaching experience. The most notable changes between 2002 and 2016 in terms of subject area was a 15% increase in arts and science courses taught and an 8.3% and 7.5% decrease, respectively, in education and “other” courses. From 2002 to 2016, there was a shift toward faculty teaching only undergraduate ODL courses evident by a 15% decrease in faculty teaching both undergraduate and graduate courses and a 15.8% increase in faculty teaching only undergraduate courses. Finally, there was an upward trend in class size between 2002 and 2016 with increases in courses with 30–39 (5%) and 40+ (3.4%) students. Most notable was a 10% drop for the 10–19 course size group.

QDES Instruction Scale

A composite mean score for the 7-item QDES:I scale was calculated. Presented in Table 4 are the means, standard deviations, and One-Way ANOVA values for faculty groups on QDES:I scale items and the mean QDES:I scale score. Across the board, mean importance ratings for all QDES:I items were higher among the 2002 faculty compared to the 2016 faculty. Mean differences between the two faculty groups on the individual scale items ranged from 0.11 for QDES:I item 15-I: “Uses a variety of instructional techniques,” to 0.97 for item 16-I: “Timely comments from instructor.” Faculty from 2002 and 2016 rated “Clear criteria for student assessment” (Item 20-I) and faculty “Enthusiasm for distance education teaching” (Item 11-I) as most important. Faculty group ratings differed the

most for item 16-I: “Timely comments from the instructor” (MD = .97), item 14-I: “Active class participation required” (MD = .84), and item 12-I: “Student interaction with the instructor” (MD = .81). These three items represent instructional factors that require a substantial time commitment and may be indicative of higher workloads for instructors due to larger ODL class sizes or an increase in the number of ODL courses taught during a term.

One-way ANOVAs were conducted on individual QDES:I scale items and the mean QDES:I scale score by faculty group. Cohen’s (1988) guidelines were used for interpretation of effect size (η^2) where .01 = small, .06 = medium, and .14 = large effect size. Significant faculty group differences with small effect sizes were noted for QDES:I items 11-I: “Enthusiasm for distance education teaching” ($p = .003$, $\eta^2 = .038$) and 20-I: “Clear criteria for student assessment” ($p = .001$, $\eta^2 = .042$), indicating 3.8% and 4.2% respectively, the variance attributed to faculty grouping. Significant faculty group differences and large effect sizes were noted for QDES:I items 13-I: “Collaboration among students” ($p = .001$, $\eta^2 = .140$), 14-I: “Active class participation required” ($p = .001$, $\eta^2 = .178$), 12-I: “Student interaction with the instructor” ($p = .001$, $\eta^2 = .234$), and 16-I: “Timely comments from the instructor” ($p = .001$, $\eta^2 = .319$), indicating a range from 14% to 31.9% of the variance attributed to faculty grouping. Finally, a significant faculty group difference with a large effect size was noted for the

Table 4: Mean, Standard Deviations, and One-Way ANOVAs for Faculty Groups on QDES I Scale Items and the Mean QDES I Scale Score

		2002 Faculty (N=120)		2016 Faculty (N=120)		M_D	F^*	Sig	2
Item		MN	SD	MN	SD				
11-I	Enthusiasm for distance education teaching	4.56	.73	4.25	.83	.31	9.293	.003	.038
12-I	Student interaction with the instructor	4.53	.85	3.72	.64	.81	70.951	.001	.234
13-I	Collaboration among students	4.08	1.14	3.34	.64	.74	38.856	.001	.140
14-I	Active class participation required	4.43	.85	3.59	.97	.84	51.492	.001	.178
15-I	Uses a variety of instructional techniques	3.88	1.06	3.77	1.00	.11	.663	.416	.003
16-I	Timely comments from the instructor	4.67	.54	3.70	.85	.97	111.323	.001	.319
20-I	Clear criteria for student assessment	4.69	.59	4.43	.65	.26	10.466	.001	.042
QDES Instruction Mean Scale Score		4.41	.45	3.83	.39	.58	112.515	.001	.321

Note: $df = 1, 238$.

mean QDES:I scale score [$F(1, 238) = 112.515, p = .001, \eta^2 = .321$], showing 32.1% of the variance in the mean scale score attributed to faculty grouping.

Demographic Variables: Sex and Age

Faculty group mean QDES:I scale scores were compared based on the demographic variables of sex and age (see Table 5). Means scores for males were lower than females among the 2002 and higher among the 2016 faculty group. The mean difference between males and females was more pronounced among the 2002 ($MD = .159$) compared to 2016 faculty group ($MD = .079$). For both the 2002 and 2016 age groups, mean QDES:I scale scores increased as the age of faculty increased with the highest scores among the ≥ 50 age group. The mean differences between the age groups were small for the 2002 faculty; however, the largest mean difference was noted between the ≤ 39 age group and the two older age groups for the 2016 faculty group ($MD = .493$ and $MD = .500$, respectively).

Two-way ANOVAs were conducted for sex and age by faculty group on mean QDES:I scale scores. There was no significant main effect for sex. There was a significant interaction effect for faculty \times sex [$F(1, 236) = 4.776, p = .030, \eta^2 = .014$] with a small effect size of 1.4% of the variance accounted for by the interaction of faculty group by sex. A significant main effect for age [$F(2, 234) = 12.053, p = .001, \eta^2 = .062$] and a significant interaction effect for faculty by age was noted [$F(2, 234) = 6.890, p = .001, \eta^2 = .035$] with medium and small effects sizes, respectively, of 6.2% and 3.5% of variance in

the mean QDES:I scale scores accounted for by age group and for the interaction of faculty by age. Post hoc analysis revealed the significant main effect by age was attributed to lower rating scores among faculty aged ≤ 39 years compared to the 40–49 ($MD = -.417, p = .001$) and the ≥ 50 years ($MD = -.385, p = .001$) age groups. Finally, significant differences in mean QDES:I scale scores for the ≤ 39 age group for the 2002 and 2016 faculty groups ($MD = .868, p = .001$) contributed to the significant interaction effect for faculty by age.

Higher Education Variables: Institution Type and Tenure Status

Faculty mean QDES:I scale scores were examined based on institution type and tenure status (see Table 6). The distribution of faculty based on institution type was similar for the 2002 and 2016 groups with over half from public four-year institutions (55% and 52.5%, respectively), about one-fourth from community colleges or technical trade schools (28.3% and 25.8%, respectively), and about one-fifth from private four-year institutions (16.7% and 21.7%, respectively). The highest and lowest mean ratings on instruction variables were noted for the community college group for 2002 and 2016, respectively. Also, while the mean ratings were similar across institution type groups for the 2002 faculty group, the mean ratings for the 2016 community college group was markedly lower than the other institutional type groups. Finally, based on tenure status, the percentage of tenured faculty decreased from 40.8% to 31.7% from 2002

Table 5. Descriptive Statistics and Two-Way ANOVAs for Faculty \times Sex and Faculty \times Age on the Mean QDES I Scale Score

	2002 Faculty (N=120)			2016 Faculty (N=120)							
	N	MN	SD	N	MN	SD		df	F	Sig	η^2
Sex											
Male	62	4.33	.46	57	3.87	.36	Faculty	1,236	114.15	.001	.321
Female	58	4.49	.43	63	3.79	.41	Sex	1,236	.55	.461	.002
Total	120	4.41	.45	120	3.83	.39	Faculty \times Sex	1,236	4.78	.030	.014
Age											
≤ 39	25	4.35	.41	40	3.49	.37	Faculty	1,236	119.41	.001	.305
40–49	48	4.40	.47	29	3.99	.33	Age	2,234	12.05	.001	.062
≥ 50	47	4.44	.46	51	3.99	.25	Faculty \times Age	2,234	6.89	.001	.035
Total	120	4.41	.45	120	3.83	.39					

Table 6: Descriptive Statistics and Two-Way ANOVAs of Mean QDES I Scale Scores by Institution Type and Tenure Status

	2002 Faculty (N=120)			2016 Faculty (N=120)							
	N	MN	SD	N	MN	SD		Df	F	Sig	²
Institution Type (IT)											
CC/Other	34	4.44	.46	31	3.67	.34	Faculty	1,236	101.08	.001	.296
Public	66	4.39	.45	63	3.88	.35	IT	2,234	.88	.414	.005
Private	20	4.41	.48	26	3.89	.41	Faculty x IT	2,234	2.258	.108	.013
Total	120	4.41	.45	120	3.83	.34					
Tenure Status (TS)											
Tenured	49	4.41	.43	36	4.03	.24	Faculty	1,236	127.72	.001	.327
Tenure-Track	27	4.40	.46	24	3.48	.43	TS	2,234	8.58	.001	.039
Non-Tenure-Track	44	4.41	.49	60	3.85	.35	Faculty x TS	2,234	6.95	.001	.036
Total	120	4.41	.45	120	3.83	.39					

to 2016 and remained unchanged at about 20% for tenure-track faculty. Mean importance ratings were nearly identical among 2002 tenure status groups while among 2016 faculty, tenured faculty gave the highest and tenure-track faculty gave the lowest mean ratings (MD = .55).

Two-way ANOVAs were conducted for institution type and tenure status on the mean QDES:I scale scores by faculty group. No significant main or interaction effects for institution type were found. Significant main effects were noted for tenure status [$F(2, 234) = 8.578$, $p = .001$, $\eta^2 = .039$] with a small effect size showing that 3.9% of the variance in the mean QDES:I scale scores were attributed to tenure status. Post hoc analysis revealed that the significant main effect by tenure was attributed to lower rating scores among tenure-track faculty compared to tenured (MD = -.189, $p = .021$) and non-tenure-track (MD = -.278, $p = .001$) groups.

ODL Variables

Mean QDES:I scale scores were examined based on ODL course area, course level, number of courses taught, and class size in the last ODL course (see Table 7). A shift was noted in the percentage of course areas taught by faculty from 2002 to 2016. The percent of business courses taught remained stable at about 15%. There was a decline in education (35.8% to 27.5%) and other courses (e.g., math, science, dental hygiene) taught (23.3% to 15.8%). The percentage of faculty teaching arts and sciences courses more than doubled (17.5% to 40.8%). The highest mean QDES:I scale importance

rating scores were noted for the 2002 education and the 2016 arts and sciences course faculty groups. Finally, business course faculty in both the 2002 and 2016 groups generally gave the lowest mean QDES:I scale scores.

In terms of course level, a comparison of the 2002 and 2016 faculty groups revealed that the percentage of faculty teaching graduate courses remained relatively stable at around 18%–19%, with a decline from 39.2% to 24.2% for those teaching both graduate and undergraduate courses and an increase from 41.7% to 57.5% for faculty teaching only undergraduate level courses. The largest mean QDES:I scale score difference between the 2002 and 2016 faculty groups based on course level was noted for faculty who taught only at the undergraduate level (MD = .69) and the smallest mean difference was noted for faculty who taught both undergraduate and graduate level courses (MD = .39).

Based on the number of ODL courses taught, the highest mean QDES:I scale scores were found among all class size groups for the 2002 faculty group compared to the 2016 faculty groups. Mean QDES:I scores were highest for faculty teaching 5–9 courses among the 2002 and teaching one course among the 2016 faculty group. The lowest mean ratings were noted for faculty teaching 10+ courses for the 2002 and 2–4 courses for the 2016 faculty groups, respectively. Finally, mean QDES:I scale scores decreased as the class size increased for both the 2002 and 2016 faculty groups.

Table 7. Descriptive Statistics and ANOVAs of Faculty Mean QDES:I Scale Scores by ODL Course Area, Course Level, Number of Courses Taught, and Number of Students in Last Course

	2002 Faculty (N=120)			2016 Faculty (N=120)							
	N	MN	SD	N	MN	SD		Df	F	Sig	²
Course Area (CAT)											
Arts & Sciences	21	4.39	.46	49	3.86	.42	Faculty	1,236	93.45	.001	.278
Business	18	4.29	.38	19	3.78	.30	CAT	3,232	1.76	.156	.016
Education	43	4.57	.32	33	3.81	.41	Faculty x CAT	3,232	1.99	.118	.018
Other	28	4.25	.58	19	3.84	.37					
Total	120	4.41	.45	120	3.83	.39					
Course Level (CLT)											
Undergraduate	50	4.42	.49	69	3.73	.40	Faculty	1,236	79.92	.001	.246
Graduate	23	4.44	.53	22	3.95	.36	CLT	2,234	2.23	.109	.014
Undergrad/ Graduate	47	4.38	.40	29	3.99	.30	Faculty x CLT	2,234	3.06	.049	.019
Total	120	4.41	.45	120	3.83	.39					
Courses Taught (NCT)											
1	20	4.39	.49	21	3.92	.36	Faculty	1,236	103.75	.001	.304
2-4	43	4.39	.46	34	3.73	.42	NCT	3,232	.89	.442	.008
5-9	22	4.51	.30	27	3.85	.41	Faculty x NCT	3,232	.87	.456	.008
10 or more	35	4.36	.51	38	3.86	.35					
Total	120	4.41	.45	120	3.83	.39					
Class Size (CS)											
1-9	15	4.41	.63	18	3.98	.35	Faculty	1,236	73.63	.001	.234
10-19	49	4.49	.39	37	3.89	.37	CS	4,230	2.12	.079	.027
20-29	33	4.39	.41	32	3.76	.47	Faculty x CS	4,230	.53	.715	.007
30-39	7	4.27	.65	13	3.68	.31					
40+	16	4.24	.41	20	3.79	.29					
Total	120	4.41	.45	120	3.83	.39					

Two-way ANOVAs were conducted for ODL course area, course level, number of ODL courses taught, and number of students in last ODL course taught on the mean QDES:I scale score by faculty group. No significant main effects were noted for any of the ODL variables on the mean QDES:I scale scores. Among the ODL variables, a significant interaction was noted for faculty by course level [$F(2, 234) = 3.061$, $p = .049$] with a small effect size ($\eta^2 = .019$) indicating that only 1.9% of the variance in the mean QDES:I scale score was attributed to course level. Post hoc analysis revealed that significant differences in mean QDES:I scale scores for 2002 and 2016 faculty teaching only

undergraduate courses ($MD = .692$, $p = .05$) contributed to the significant interaction effect for faculty by course level taught groups.

DISCUSSION AND IMPLICATIONS FOR ODL COURSE INSTRUCTION

With the expansion of ODL course delivery in higher education, the goal of the study was to explore demographic changes in ODL faculty and their perceptions about ODL course instruction. Due to the nature of the study involving a small survey about course instruction, implications for ODL course delivery are limited. However, the results of this study add new understanding and provide a richer picture about faculty perceptions

that may influence attitudes and behaviors related to teaching in the ODL transactional learning space.

The Faculty Picture

Based on the personal, higher education, and ODL demographic variables from the present study, the “typical” ODL course instructor in 2002 was a 40+ year old male tenured faculty member at a public four-year institution who taught undergraduate and graduate education ODL courses with 10–29 students. By 2016, the “typical” ODL course instructor was either a 50+ or 39 and younger aged female non-tenure-track faculty member at a public four-year institution who taught predominantly undergraduate arts and sciences ODL courses with 10–29 students. While these are broad generalities, the demographic shift in faculty teaching ODL courses points to the expansion of ODL course delivery in higher education, higher ODL enrollment by younger traditional students, and increased course delivery by younger non-tenure-track faculty or older faculty possibly transitioning toward smaller course teaching loads.

Between 2002 and 2016, there has been a shift from predominantly midcareer tenured professors teaching ODL courses toward reliance on early career non-tenured faculty with less teaching experience assuming the primary ODL course instructor role. This shift may be indicative of technologically adept faculty or adjunct faculty with fewer institutional responsibilities assuming a greater role in ODL course delivery. The substantial rise in nontenured faculty teaching ODL courses follows the increased use of non-tenure-track and adjunct faculty within higher education as a whole (Mandernach et al., 2015).

The increased offering of ODL arts and science courses supports the current literature that ODL has become an integral part of higher education (Allen & Seaman, 2014). Between 2002 and 2016, a wider range of general education courses and core courses for social science and education degrees had become standard among ODL course offerings. The increasingly larger ODL class size reported by faculty in this study reflect the rapid growth in ODL enrollment in the last decade as greater numbers of traditional students opt to take ODL courses as part of their overall degree program (Allen & Seaman, 2014; Hixon et al., 2016; Horvitz et al., 2015; National Center for Education Statistics, 2016). A contributor to increased class size may be that the rapid rise

in enrollment and breadth of course offerings has outpaced the availability of ODL trained faculty and resources to support ODL course delivery (Crawford-Ferre & Wiest, 2012; Mandernach et al., 2015). This has implications for effective course instruction. It is important that course offerings not be expanded too widely before adequate faculty, technology, and institutional resources are in place to support quality ODL course delivery.

It was common in 2002 for faculty to teach both undergraduate and graduate ODL courses. By 2016, faculty generally limited ODL course delivery to undergraduate or graduate courses and not both. The decrease in faculty teaching both undergraduate and graduate level courses may reflect younger, early-career, nontenured, or adjunct faculty teaching ODL courses coupled with increased demand by traditional students for ODL undergraduate general education courses (Allen & Seaman, 2013; Mandernach et al., 2015). Additionally, faculty may limit their teaching to only undergraduate or graduate level ODL courses due to increased workloads related to developing course materials and instructional strategies specific to student groups with differing maturity, skill levels, and learning goals (Crawford-Ferre & Wiest, 2012).

Changes in Faculty Perceptions about ODL Instruction

Overall, the 2002 faculty group rated higher ODL course instruction factors. This was most notable for instruction factors pertaining to maintaining communication and interaction within the transactional learning space. The lower importance ratings given by 2016 faculty may reflect the “normalization” of ODL course delivery within higher education. In 2002, ODL course instruction was relatively new in higher education. By 2016, ODL course delivery had expanded throughout higher education with improved ITT and ODL support systems for instructors and students. In the early years of ODL course delivery, technology was less reliable, student support often was inadequate, and faculty had less ODL instructional experience. As a result, faculty teaching courses in 2002 compared to 2016 faculty may have been more sensitive to the transactional gap created by time and location separation, the importance of projecting enthusiasm through ongoing interaction with students, demonstrating

knowledge about the course subject, and supporting student-centered learning in the ODL transactional space (Crawford-Ferre & Wiest, 2012; Hixon et al., 2016; Moore, 2013).

Among the 2002 study sample, there was little variability across tenure status groups for ratings of perceived importance for instruction factors; however, among the 2016 sample, tenure-track instructors gave lower importance ratings compared to tenured or non-tenure-track faculty. ODL course delivery is associated with an increased work load. Compared to nontenured or adjunct instructors, tenure-track faculty often have a high time commitment devoted to nonteaching responsibilities and research activities required to achieve tenured status (Bunk et al., 2015; Horvitz et al., 2015). The lower ratings may represent attempts by tenure-track faculty to reconcile actual versus perceived ODL instructional behaviors and performance that may not match perceptions of what is required to provide quality ODL instruction.

A barrier to self-directed learning is lack of interaction in the ODL transactional learning space (Moore, 2013). Faculty from the 2002 and 2016 study samples gave high importance to communication related instructional factors (e.g., providing timely feedback and engaging in instructor-student interaction). This may point to faculty understanding that students expect the ODL instructor to create and maintain an environment that supports ongoing interaction, student-centered learning, knowledge construction, and meaning making (Hixon et al., 2016; Richardson et al., 2015). Based on evidence from this study, faculty may continue to feel challenged with creating a sense of presence and self-identity that promotes positive dialogue, student interactivity, and collaboration in the ODL transactional space (Richardson et al., 2015). The trend toward increased class sizes coupled with time constraints, increased workload, or burnout may contribute to faculty stress over decreased ability to communicate enthusiasm and engage in timely and in-depth dialogue with students (Horvitz et al., 2015). As a result, the lower ratings for the 2016 faculty sample compared to the 2002 faculty sample may reflect instructors' unconscious attempts to reconcile differences in their external instructional behaviors with their internal perceptions of what is important for providing quality ODL course delivery.

The most successful ODL courses are student-centered with faculty using constructivist instructional strategies and assessments that promote self-directed learning (Esterhuizen et al., 2013; Kidder, 2016). In line with prior research (Baker et al., 2015; Hixon et al., 2016; Kauffman, 2015; Nash, 2015), both the 2002 and the 2016 faculty rated as most important providing clear criteria for student performance assessment. This may reflect faculty efforts to outline clear linkages between the course content and required learning outcomes (Baker et al., 2015; Kauffman, 2015; Nash, 2015). Lack of relevant feedback and misaligned assessment can lead to student disengagement with the learning process. Promoting student knowledge construction and skill development often requires an increased time investment by faculty to give specific feedback with sufficient detail to provide clarity and facilitate the learning process. The high importance given to assessment may also signal faculty moving away from test-based toward performance-based assessments that are considered more effective in facilitating student use of critical thinking and problem-solving skills and less use of rote memory skills and lower level metacognitive strategy use (Baker et al., 2015; Kauffmann, 2015; Nash, 2015).

Faculty Interaction in the ODL Environment

Time management is a critical factor for effective ODL course delivery. Students approach ODL courses with an expectation that faculty will be available any time or place. For both the 2002 and 2016 study samples, faculty and students continue to rely heavily on time consuming text-based communication that contributes to interaction time-lag, miscommunication based misunderstanding, and increased faculty workload. Effective use of faculty time and consistency in responding to students is best served by setting parameters for acceptable communication and course activity patterns (Huang & Hsiao, 2012; Schulte, 2010). Faculty course workloads can be reduced by establishing a set time period each workday and once during the weekend for student communication tasks. A set schedule will provide students with security knowing their inquiries will be responded to in a reasonable period of time. Additionally, non-text-based communication (e.g., skype and web-conference) provide instructor and students with a

richer interactive experience. To this end, faculty may benefit from professional development with specific attention given to decreasing email-based and other text-based communication and increasing use of applications such as webcasting, interactive audio/video streaming, and two-way desk-top audio-visual chat or web-conferencing (Huang & Hsiao, 2012; Schulte, 2010).

CONCLUSION

Based on the findings of this study, between 2002 and 2016, faculty perceptions indicated decreased importance given to ODL course instruction factors. Possible explanations for this finding include less anxiety and concern over ODL course delivery factors due to improved ITT allowing for integration of multiple media and communication tools in the ODL learning space, expansion of course offerings across all higher education institutions, and higher enrollment among traditional students that contribute to larger class size and increased faculty workload. The study findings support the notion that faculty strive to provide quality ODL instruction and perceive that, above all, promoting student engagement and active learning must remain a priority. Distance learning transactions link the instructor with students and while technological advancements support ODL course delivery, the responsibility for instruction quality and control still rest with course faculty. This is a challenging task that if successfully accomplished will result in greater student motivation, interest, involvement, satisfaction, and academic success when learning at a distance.

Recommendations for Further Study

Several factors have been identified through this study to consider in future ODL research. First, the link between faculty perceptions and actual instructional strategies and course outcomes were not investigated in the present study. Comparing faculty perceptions and actual behaviors would provide a richer picture of how perceptions influence instructional practices and course design. Second, the significantly lower QDES:I importance ratings among tenure-track faculty warrant further investigation to understand more fully environmental and cognitive factors that contribute to these faculty perceptions. Also, the increased use of adjunct and non-tenure-track faculty and the shift toward faculty teaching only

undergraduate or graduate level ODL courses warrants further investigation. These findings may be anomalous to the study sample or may indicate other factors contributing to changes in ODL faculty and course demographics.

To develop a richer picture of faculty perceptions about instruction, it is recommended that this study be replicated with both faculty and student participants. This would provide greater understanding of faculty perceptions and misconceptions of what students actually believe or how students behave in the ODL environment and how these differences affect ODL pedagogy and instructional strategy use. A more in-depth comparison of perceptions of ODL and traditional course instruction would help identify the unique challenges faced by faculty and students participating in ODL course delivery. Finally, a larger, more stratified sample would provide clarity and the ability to explore the direction or magnitude of change and shed light on possible reasons for different perceptions about ODL instruction among various faculty groups.

STUDY DELIMITATIONS AND LIMITATIONS

The focus of the present study was delimited to the demographic and instructional items of the QDES Survey. While the findings of the study contribute to understanding faculty perceptions regarding ODL course instruction, there were limitations that should be addressed in future research. First, the 2002 and 2016 study samples were not matched, and this could have introduced error into the study findings because of faculty, regional, or institutional higher education differences. Second, following administration of the 2002 QDES, it was determined that some perception-based survey items were ambiguous and open to a variety of interpretations by study participants. However, these QDES items were not changed for the 2016 administration in order to limit possible confounding variables by presenting two different versions of some items. Third, while Cronbach alpha reliabilities of the QDES:I subscale were within acceptable ranges, the QDES would benefit from the revision of scale items for improved clarity. Conducting additional validity and reliability studies would improve the ability of the survey to capture instructional issues more accurately and consistently over time.

To improve study findings in future research, a larger stratified sampling of faculty by demographic, teaching, and ODL experience would provide a more accurate picture of instructional factors and improve generalizability of the results. Participation in the study was voluntary and the self-selection of those contacted to participate may have introduced bias into the results; responder and nonresponder perceptions may have been different.

Finally, the quantitative format used to collect data limited the ability to probe more in-depth into faculty opinions and feelings. Use of the survey as a data collection method with a forced choice response format can limit the ability to tap into those factors that are most relevant and important to faculty. A mixed method approach using the survey to collect information on a large population of faculty combined with in-depth interviews of a smaller stratified sample would capture more fully faculty experiences and perceptions. The information from the present study provides a starting point for further investigation.

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